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JAPANESE PATENT OFFICE

## PATENT ABSTRACTS OF JAPAN

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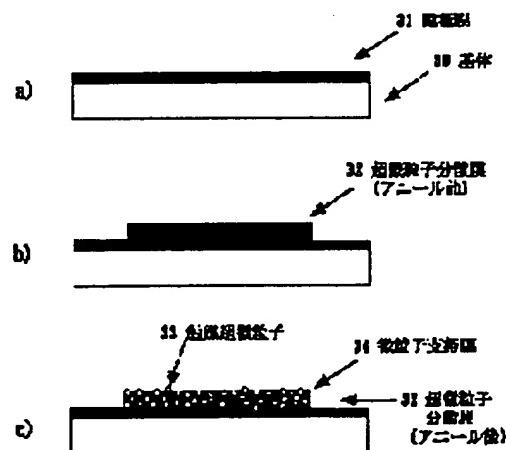
(72)Inventor: DEN TORU  
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## (54) CARBON NANOTUBE DEVICE AND ITS MANUFACTURE

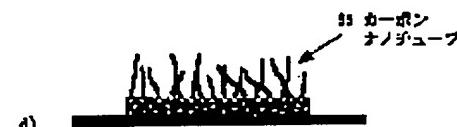
(57)Abstract:

**PROBLEM TO BE SOLVED:** To provide a carbon nanotube device which is capable of efficiently allowing current to flow through the carbon nanotubes by joining one end or both ends of each of carbon nanotubes to the electrode on a substrate provided with an electrode and further, capable of controlling the amount of current flowing through the carbon nanotubes with a magnetic field.

**SOLUTION:** This manufacture comprises heating a substrate 30 that has a surface layer in which catalyst hyperfine particles 33 each contg. Fe, Co or Ni are dispersed in a material consisting essentially of Cu, Ag,



Au or Cr, to 400 to 800° C in an atmosphere contg. ethylene, acetylene or gaseous carbon monoxide as a gaseous raw material, to subject the gaseous raw material to thermal decomposition and thereby to grow carbon nanotubes 35 on the surface of the substrate 30.



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